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AN INSECTARY METHOD OF REARING HORNWORM LARVAE

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The methods and equipment described in this paper were used successfully at Quincy, Fla., in 1936 for rearing larvae of the hornworm Protoparce sexta Joh.

An insectary of the open type was employed in which the roof and one side only were enclosed, the opposite side and the two ends being left open and unscreened (fig. 1). The floor was laid so that a space of about one-half inch existed between each pair of boards. By employing this type of insectary the following advantages were obtained: Economy of materials, good ventilation, ease of cleaning, and a closer approximation of normal environmental conditions. Good ventilation was found to be particularly important, since under such conditions bacterial diseases were not prevalent.

To provide a satisfactory space for the accommodation of the rearing cages two shelves extending the entire length of the insectary and of the proper height to be readily accessible were installed. These shelves consisted of light wooden frames which were first covered with a layer of hardware cloth (heavy, square-mesh, galvanized screen, having 4 meshes to the square inch) and then a layer of 16-mesh galvanized wire screen, each layer being drawn as tightly as possible across the frames before being fastened. This covering provided the necessary rigidity required to support the cages and at the same time allowed free circulation of air through the shelves.

All larvae were reared in individual cages, common jelly glasses,  $3\frac{1}{2}$  inches high by  $2\frac{1}{2}$  inches in diameter, and 7-inch lantern globes being used for this purpose. Newly emerged hornworm larvae were placed under the inverted jelly glass cages in the insectary. Each cage was marked with the number of the larva it contained by means of a wax pencil. Larvae in these individual containers were examined daily and the date of each molt was recorded. Small pieces of fresh, tender tobacco leaves were placed under each cage for food. As the larvae became larger they were transferred to the lantern globe cages, which were numbered in the same manner as the jelly glasses. The top of each lantern globe was covered with a piece of cheesecloth to prevent the larvae from escaping. Larvae were allowed to complete their development in these cages.

In addition to the wire shelves, a narrow wooden shelf was placed directly in front of the lower wire shelf. This provided a space for feeding and handling the larvae and for making some of the records. A desk and space for supplies were also provided at one end of the insectary. The exposed wooden portions of the shelves and desk were given two coats of durable, white paint which greatly facilitated cleaning.





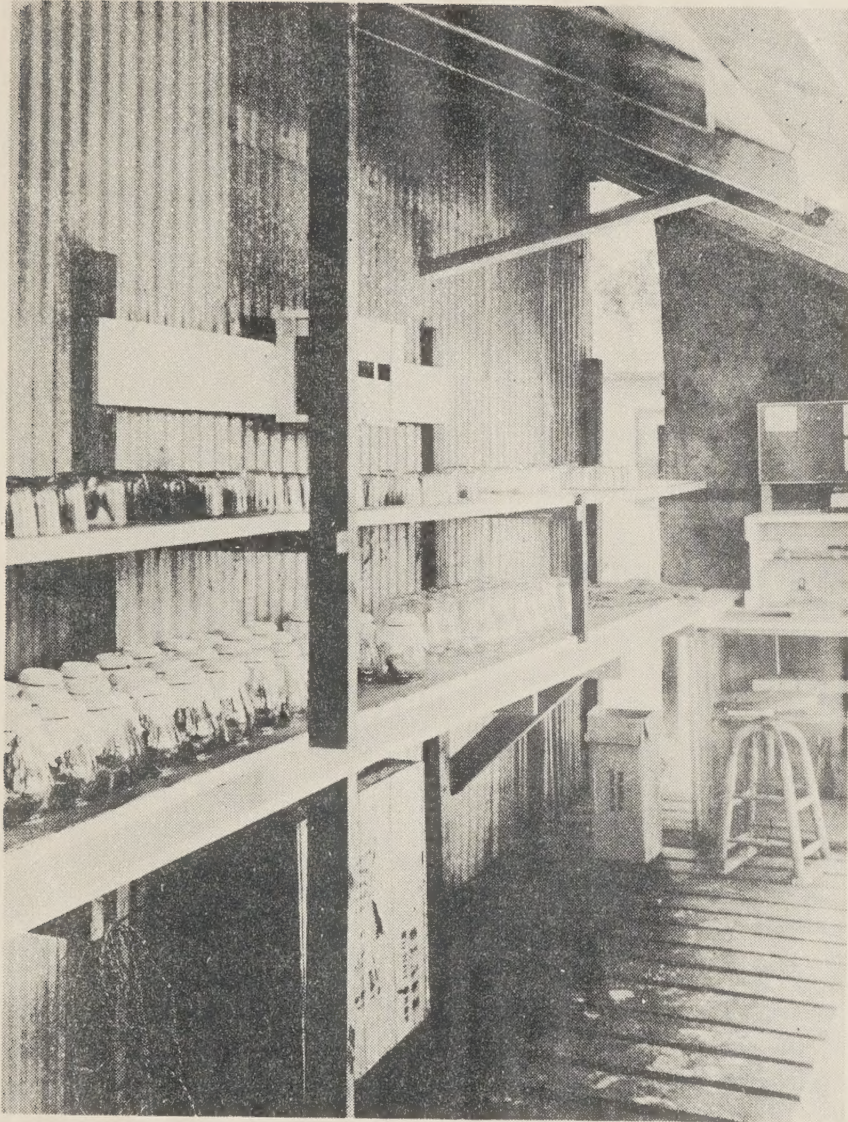


Figure 1.--Photograph of insectary used for rearing hornworm larvae, showing the jelly glasses and lantern globes used as cages in which individual specimens were placed, and some details of the construction of the floor and shelves.

